IN THE CLAIMS

Please amend the claims as follows.

1. (Currently Amended) Method of estimating an electrical capacitance of a circuit component comprising:

[[-]] a first rectangular conducting plate, having a width W, a length L and a thickness t_{M1};

[[-]] a second conducting plate, parallel to the first plate and separated from the latter by a distance t_{Ox}, having a rectangular central part facing the first plate and a peripheral part surrounding said central part;

[[-]] a first homogeneous dielectric, of relative dielectric permittivity ε_{Ox}, placed between the first and second plates and having a thickness of t_{Ox} between the two plates and of t_{OxSt} in line with said peripheral part of the second plate, so that said first dielectric has a height step $t_{Ox} - t_{OxSt}$ around the perimeter of the first plate; and

[[-]] a second homogeneous dielectric, of relative dielectric permittivity ε_E, surrounding the first plate and the first dielectric,

the method comprising the estimation of the capacitance of the component as a sum of several terms including at least two terms of the form $C_0.W.L$ and $C_1.2(W+L)$, with $C_0 = \frac{\varepsilon_0 \cdot \varepsilon_{Ox}}{t_{Ox}}$ and

$$C_1 = \frac{\varepsilon_0}{\pi} \cdot K \cdot \mathrm{Ln}(a),$$

- ε_0 being the dielectric permittivity of free space,

- $$K = \frac{\varepsilon_{Ox} \cdot \varepsilon_E}{\varepsilon_{Ox} - \left(\frac{(\varepsilon_E - \varepsilon_{Ox})^2}{(\varepsilon_E + \varepsilon_{Ox})} \cdot \frac{t_{OxSt}}{t_{Ox}} \right)},$$

- $a = -1 + 2k^2 + 2k\sqrt{k^2 - 1}$ with $k = 1 + \frac{t_{M1}}{t_{ox}}$.

2. (Original) Method according to Claim 1, wherein the terms of the sum furthermore include two terms of the form $[C_2(W)+C_3(W)]\cdot 2L$ and $[C_2(L)+C_3(L)]\cdot 2W$, with, for $x = W$ or L:

$$C_2(x) = \frac{\varepsilon_0}{\pi} \cdot K \cdot \mathrm{Ln}\left(\frac{u(x)}{a}\right) \text{ and}$$

$$C_3(x) = \frac{\varepsilon_0 \cdot \varepsilon_{ox}}{\pi} \cdot \left[2 - \mathrm{Ln}4 - \mathrm{Ln}\left(1 - 2\exp(-2\theta(x))\right)\right],$$

- the quantity $u(x)$ being an estimate of a solution of the equation

$$\frac{\pi}{2}\frac{x}{t_{ox}} = -\frac{a+1}{\sqrt{a}}\ln\left(\frac{R(x)+1}{R(x)-1}\right) + \frac{a-1}{\sqrt{a}}\frac{R(x)}{\left(R(x)^2-1\right)} + \ln\left(\frac{R(x)\sqrt{a}+1}{R(x)\sqrt{a}-1}\right) \text{ with}$$

$$R(x) = \sqrt{\frac{u(x)-1}{u(x)-a}}, \text{ and}$$

- $\theta(x) = 1+\pi\,\frac{x}{2t_{ox}}$.

3. (Original) Method according to Claim 2, wherein the quantity $u(x)$ is obtained using an iterative method of obtaining an approximate solution of an equation.

4. (Original) Method according to Claim 3, wherein said iterative method is Newton's method.

5. (Original) Method according to Claim 1, wherein said circuit component is a capacitor, and wherein the first and second conducting plates each comprise one plate of said capacitor.

6. (Original) Method according to Claim 1, wherein the first and second conducting plates each comprise a portion of electrical signal transmission tracks.

7. (Original) Method according to Claim 1, wherein the second conducting plate comprises a conducting substrate carrying the first and second dielectrics and the first conducting plate.

8. (Original) Method of numerically simulating the electrical operation of a circuit, the simulation method using at least one capacitance of a circuit component estimated according to Claim 1.

9. (Currently Amended) Method of determining a dimension of a capacitor of electrical capacitance C_u comprising:

[[-]] a first rectangular conducting plate, having a width W, a length L and a thickness t_{M1};

[[-]] a second conducting plate, parallel to the first plate and separated from the latter by a distance t_{Ox}, having a rectangular central part facing the first plate and a peripheral part surrounding said central part;

[[-]] a first homogeneous dielectric, of relative dielectric permittivity ε_{Ox}, placed between the first and second plates and having a thickness of t_{Ox} between the two plates and of t_{OxSt} in line with said peripheral part of the second plate, so that said first dielectric has a height step $t_{Ox} - t_{OxSt}$ around the perimeter of the first plate; and

[[-]] a second homogeneous dielectric, of relative dielectric permittivity ε_E, surrounding the first plate and the first dielectric,

the method comprising the calculation of a first approximate value L_1 of the length L as a sum of first terms including C_u and at least one term of the form $-2 \cdot C_1 \cdot W$ divided by a sum of second terms including at least two terms of the form $C_0.W$ and $2.C_1$, with $C_0 = \frac{\varepsilon_0 \cdot \varepsilon_{Ox}}{t_{Ox}}$ and

$C_1 = \frac{\varepsilon_0}{\pi}.K.\ln(a)$,

- ε_0 being the dielectric permittivity of free space,

- $$K = \frac{\varepsilon_{Ox} \cdot \varepsilon_E}{\varepsilon_{Ox} - \left(\frac{(\varepsilon_E - \varepsilon_{Ox})^2}{(\varepsilon_E + \varepsilon_{Ox})} \cdot \frac{t_{OxSt}}{t_{Ox}} \right)},$$

- $$a = -1 + 2k^2 + 2k\sqrt{k^2 - 1} \text{ with } k = 1 + \frac{t_{M1}}{t_{Ox}}.$$

10. (Original) Method according to Claim 9, wherein said first terms furthermore include two terms of the form $-2 \cdot C_2(L_0).W$ and $-2.C_3(L_0).W$, L_0 being a defined initial value and wherein said second terms furthermore include two terms of the form $2.C_2(W)$ and $2.C_3(W)$,

with for $x = W$ or L_0 : $C_2(x) = \frac{\varepsilon_0}{\pi} \cdot K \cdot \ln\left(\frac{u(x)}{a}\right)$, and

$$C_3(x) = \frac{\varepsilon_0 \cdot \varepsilon_{ox}}{\pi} \cdot \left[2 - \mathrm{Ln}4 - \mathrm{Ln}(1 - 2\exp(-2\theta(x)))\right],$$

- The quantity $u(x)$ being an estimate of a solution of the equation :

$$\frac{\pi}{2}\frac{x}{t_{ox}} = -\frac{a+1}{\sqrt{a}}\ln\left(\frac{R(x)+1}{R(x)-1}\right) + \frac{a-1}{\sqrt{a}}\frac{R(x)}{\left(R(x)^2-1\right)} + \ln\left(\frac{R(x)\sqrt{a}+1}{R(x)\sqrt{a}-1}\right) \text{ with}$$

$$R(x) = \sqrt{\frac{u(x)-1}{u(x)-a}}, \text{ and}$$

- $\theta(x) = 1+\pi\dfrac{x}{2t_{ox}}$.

11. (Original) Method according to Claim 10, wherein the quantity $u(x)$ is obtained using an iterative method of an approximate solution of an equation.

12. (Original) Method according to Claim 11, wherein said iterative method is Newton's method.

13. (Original) Method according to Claim 10, which furthermore includes the calculation of the quantities $C_2(L_1)$ and $C_3(L_1)$, and comprises the calculation of a second approximate value L_2 of the length L as a sum of third terms divided by a sum of fourth terms, said third terms comprising C_u, $-2.C_1.W$, $-2 \cdot C_2(L_1) \cdot W$ and $-2.C_3(L_1).W$, said fourth terms comprising $C_0.W$, $2.C_1$, $2.C_2(W)$ and $2.C_3(W)$.

14. (Original) Method according to Claim 10, wherein the initial value L_0 is equal to the width W.

15. (Original) Computer program comprising instructions for applying a method according to Claim 1, when the program is run in a computer.

16. (Original) Computer program comprising instructions for applying a method according to Claim 9, when the program is run in a computer.

17. (New) A method of estimating an electrical capacitance of a circuit component comprising,

a first rectangular conducting plate,

a second conducting plate parallel to the first plate, having a rectangular central part facing the first plate and a peripheral part surrounding said central part,

a first homogeneous dielectric placed between the first and second plates, and

a second homogeneous dielectric surrounding the first plate and the first dielectric,

the steps of the method comprising:

calculating a first capacitance of a first partial capacitor formed by the lower surface of the first plate and the central part of the upper surface of the second plate;

calculating a second capacitance of a second partial capacitor formed by the sides of the first plate and the peripheral part of the upper surface of the second plate; and

summing the first capacitance and second capacitance to form the estimated capacitance of the circuit component.

18. (New) The method of Claim 17, further comprising the steps of:

calculating a third capacitance of a third partial capacitor formed by a peripheral region of the upper face of the first plate and the peripheral part of the upper surface of the second plate; and

calculating a fourth capacitance of a fourth partial capacitor formed by a peripheral region of the lower face of the first plate and the peripheral part of the upper surface of the second plate,

wherein the step of summing further comprises summing the third and fourth capacitances.

19. (New) Method according to Claim 1, wherein the second conducting plate has a width W2, a length L2, and a thickness t_{M2} and the circuit component further comprises a substrate, parallel to the second plate and separated from the latter by a distance d, wherein the second dielectric is further placed between the second conducting plate and the substrate,

the method further comprising estimating the interaction capacitance between the second plate and the substrate by repeating the steps of the method of Claim 1 using the attributes W2, L2, t_{M2} and d.

20. (New) Method according to Claim 1, wherein the second conducting plate has a width W2, a length L2, and a thickness t_{M2} and the circuit component further comprises:

a substrate, parallel to the second plate and separated from the latter by a distance d,

a third homogeneous dielectric, of relative dielectric permittivity ε_{ML}, placed between the second plate and the substrate and having a thickness of d between the second plate and the substrate, and

a fourth homogeneous dielectric, of relative dielectric permittivity ε_{E2}, surrounding the second plate and the third dielectric,

the method further comprising the estimating of the capacitance between the second plate and the substrate by repeating the steps of the method using the attributes W2, L2, t_{M2}, d, ε_{ML}, and ε_{E2}.